PowerPanel® Business Edition Installation Guide

For

Power Distribution Unit

Rev. 14

2014/09/10

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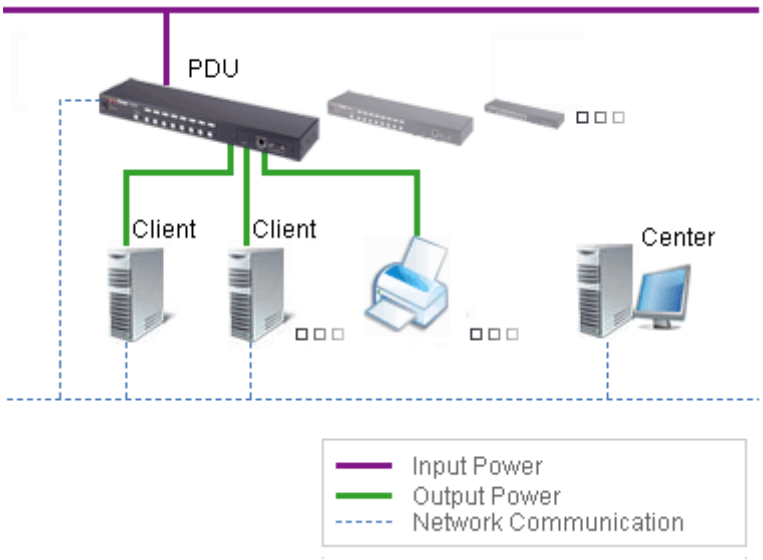
Introduction

A **Power Distribution Unit** (PDU) provides power output controls for individual outlets to your connected equipment. The PDU can establish communication with PowerPanel® Business Edition Center via the network. It can relay its state to Center and accepts commands to turn off or turn on the outlets. When the PDU turns off an outlet, any connected computers running PowerPanel® Business Edition Client are shut down in an orderly fashion, preventing data loss or a system crash due to an immediate power loss. Refer to the illustration below.



PowerPanel® Business Edition Center allows the administrator to simultaneously monitor the status and events from multiple PDUs. Center establishes communication with multiple PDUs via the network and sends commands to each PDU to turn off or turn on the outlets. The powered computers which have installed the Client will initiate shutdown sequences prior to turning off outlets.

PowerPanel® Business Edition software can be installed on various platforms including Windows, Linux, Citrix XenServer and VMware ESX/ESXi. Following sections describe conditions specific to these platforms individually.

Hardware Installation

Before installing PowerPanel® Business Edition software, make sure that the following hardware installations are configured properly:

- Verify the computer's power is connected to the PDU outlet properly.
- Verify the computer's network is connected.
- Verify the PDU's network is connected.

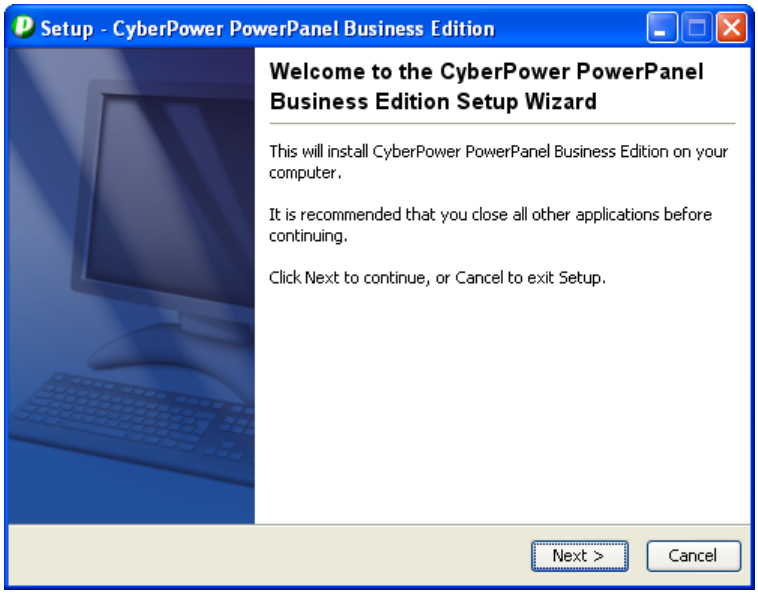
Please refer to the **Power Distribution Unit User's Manual** for a proper hardware installation.

Install PowerPanel® Business Edition Software

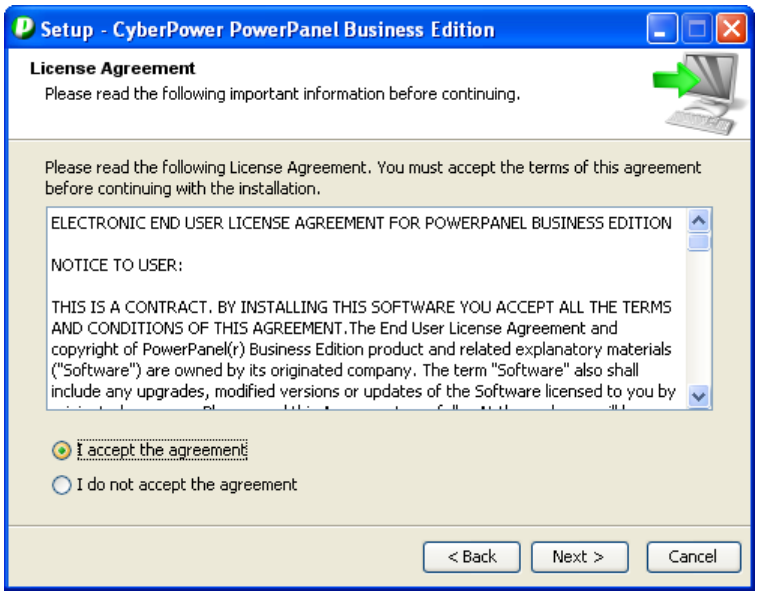
Installation on Windows

A popup page will be displayed automatically when inserting the PowerPanel® Business Edition installation CD. Users can click the **Install PowerPanel Business Edition software** shortcut on the popup page to initiate the installation procedure. If the popup page is not displayed when inserting the CD, browse to the CD drive and open the folder which locates at **/Software/Windows**, and then double click the file named **Setup.exe** to start the installation procedure. To install follow these steps:

- Click the **Next** button to start an installation.

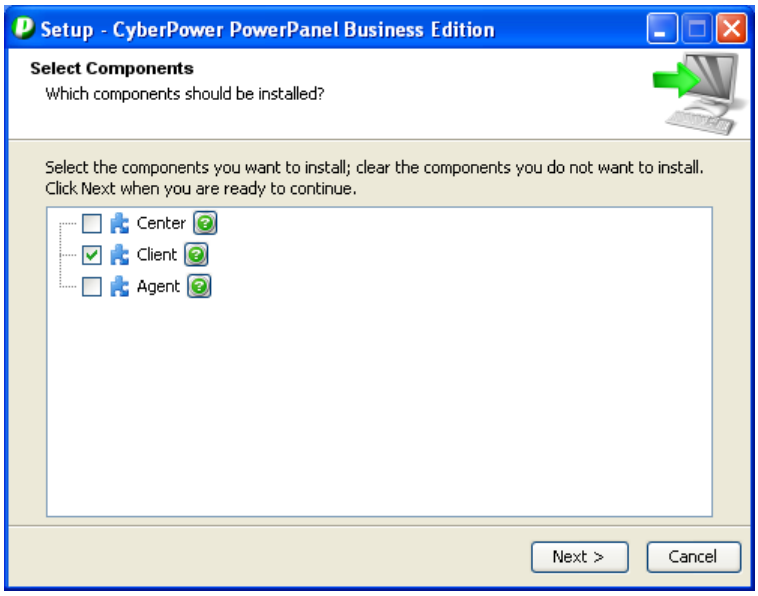

Setup - CyberPower PowerPanel Business Edition
Welcome to the CyberPower PowerPanel Business Edition Setup Wizard
This will install CyberPower PowerPanel Business Edition on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

- Accept the license agreement.

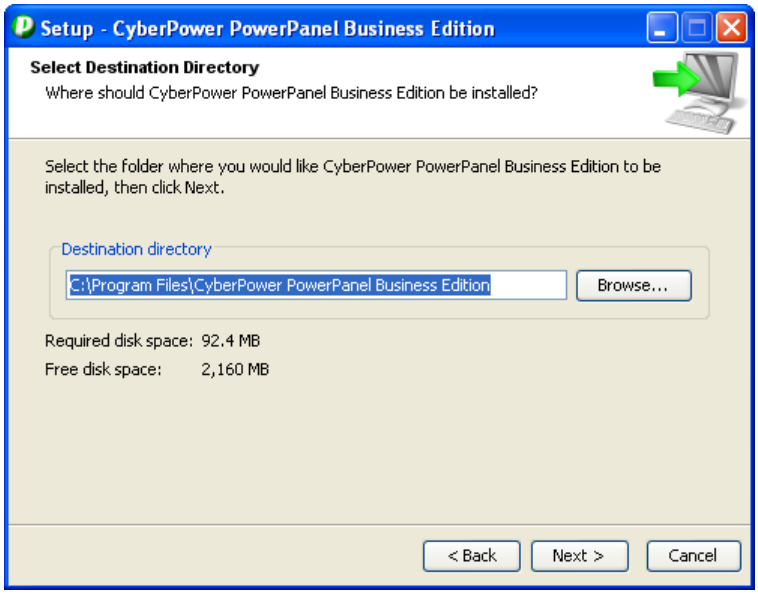

Setup - CyberPower PowerPanel Business Edition
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.
ELECTRONIC END USER LICENSE AGREEMENT FOR POWERPANEL BUSINESS EDITION
NOTICE TO USER:
THIS IS A CONTRACT. BY INSTALLING THIS SOFTWARE YOU ACCEPT ALL THE TERMS AND CONDITIONS OF THIS AGREEMENT.The End User License Agreement and copyright of PowerPanel(r) Business Edition product and related explanatory materials ("Software") are owned by its originated company. The term "Software" also shall include any upgrades, modified versions or updates of the Software licensed to you by
I accept the agreement
I do not accept the agreement
< Back
Next >
Cancel

- **Choose the component.** In order to monitor multiple PDUs, Center should be installed. In order to monitor on a single computer powered by the PDU, Client should be installed.

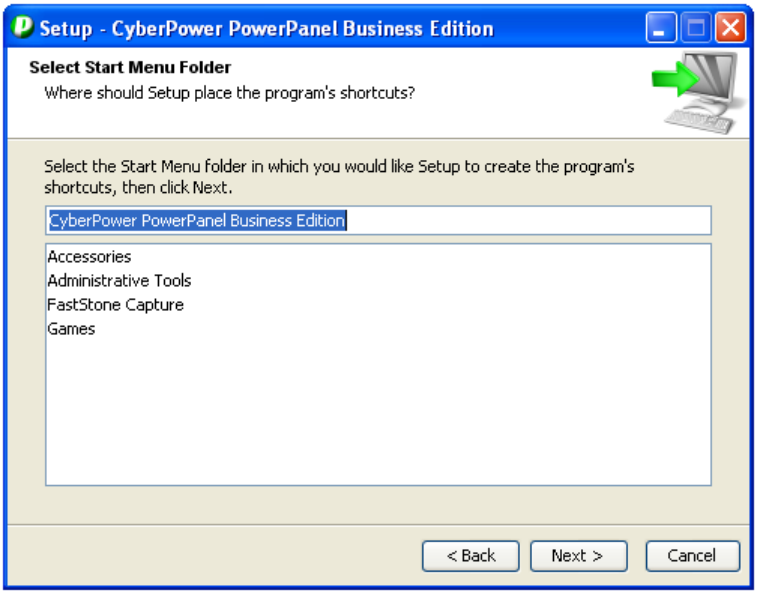
  Note: *Agent should not be selected because of ability to access to UPS instead of PDU.*


Setup - CyberPower PowerPanel Business Edition
Select Components
Which components should be installed?
Select the components you want to install; clear the components you do not want to install.
Click Next when you are ready to continue.
Center
Client
Agent
Next >
Cancel

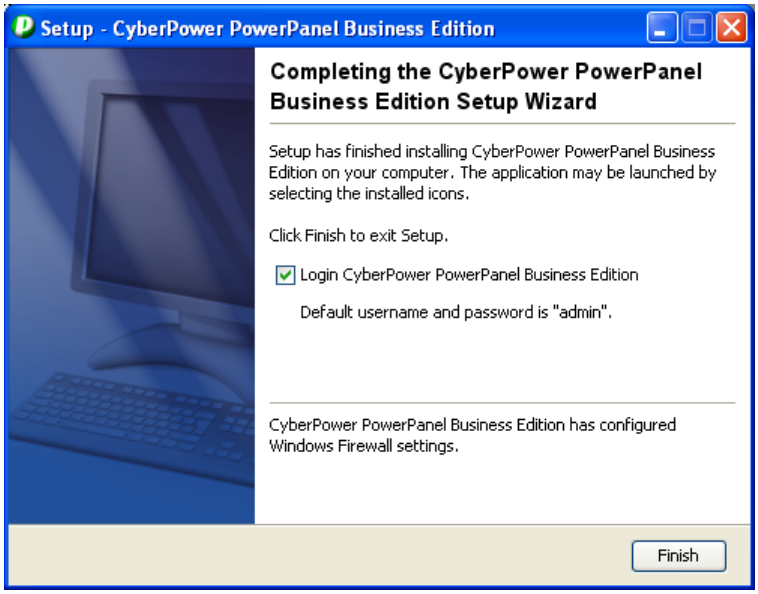
- Choose the destination directory.


Setup - CyberPower PowerPanel Business Edition
Select Destination Directory
Where should CyberPower PowerPanel Business Edition be installed?
Select the folder where you would like CyberPower PowerPanel Business Edition to be installed, then click Next.
Destination directory
C:\Program Files\CyberPower PowerPanel Business Edition
Browse...
Required disk space: 92.4 MB
Free disk space: 2,160 MB
< Back
Next >
Cancel

- Choose the start menu folder.


Setup - CyberPower PowerPanel Business Edition
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Select the Start Menu folder in which you would like Setup to create the program's shortcuts, then click Next.
CyberPower PowerPanel Business Edition
Accessories
Administrative Tools
FastStone Capture
Games
< Back
Next >
Cancel

- Click the **Finish** button to complete the installation.


Setup - CyberPower PowerPanel Business Edition
Completing the CyberPower PowerPanel Business Edition Setup Wizard
Setup has finished installing CyberPower PowerPanel Business Edition on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
Login CyberPower PowerPanel Business Edition
Default username and password is "admin".
CyberPower PowerPanel Business Edition has configured Windows Firewall settings.
Finish

Installation on Linux

The installer requires root permission to install the Client. The installation wizard will guide users to complete the installation. Initiate an installation wizard by running the **./ppbe-linux-x86.sh** command or double clicking **ppbe-linux-x86.sh** from the desktop on 32-bit systems. Initiate an installation wizard by running the **/.ppbe-linux-x64.sh** command or double clicking **ppbe-linux-x64.sh** from desktop on 64-bit systems.

Note: *On Linux systems, users may mount the CD by use the mount command. Execute* ***mount –t iso9660 /dev/cdrom /mnt/cdrom*** *as a root user. /dev/cdrom is the CD drive and /mnt/cdrom will be the mount point.*

To install follow these steps:

- Click the **Next** button to start an installation.

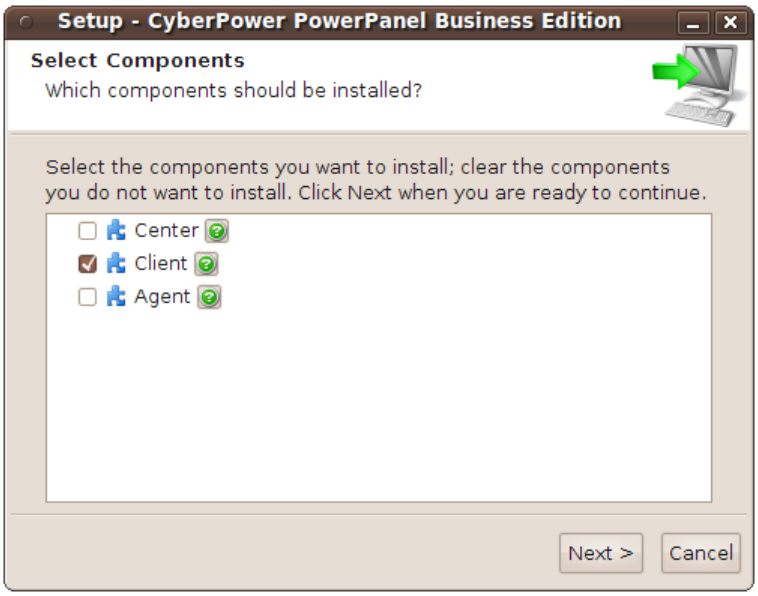
Setup - CyberPower PowerPanel Business Edition
Welcome to the CyberPower PowerPanel Business Edition Setup Wizard
This will install CyberPower PowerPanel Business Edition on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

- Accept the license agreement.

Setup - CyberPower PowerPanel Business Edition
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.
ELECTRONIC END USER LICENSE AGREEMENT FOR CYBERPOWER POWERPANEL BUSINESS EDITION
NOTICE TO USER:
THIS IS A CONTRACT. BY INSTALLING THIS SOFTWARE YOU ACCEPT ALL THE TERMS AND CONDITIONS OF THIS
I accept the agreement
I do not accept the agreement
< Back
Next >
Cancel

- **Choose the component.** In order to simultaneous monitor multiple PDU, the Center should be installed. If one single computer which is powered by the PDU requiring protection, the Client should be installed.

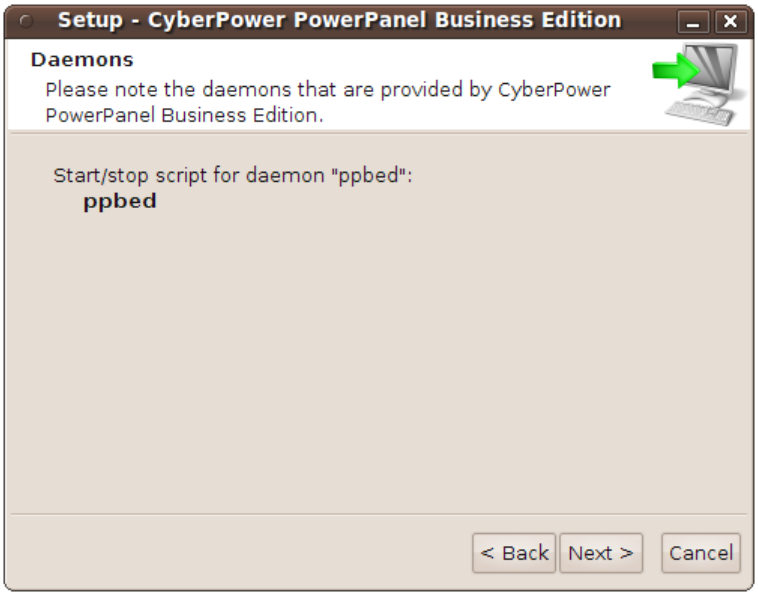
  ***Note: Agent** should not be selected because of ability to access to UPS instead of PDU.*


Setup - CyberPower PowerPanel Business Edition
Select Components
Which components should be installed?
Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.
Center
Client
Agent
Next >
Cancel

- Choose the destination directory.

Setup - CyberPower PowerPanel Business Edition
Select Destination Directory
Where should CyberPower PowerPanel Business Edition be installed?
Select the folder where you would like CyberPower PowerPanel Business Edition to be installed, then click Next.
Destination directory
/usr/local/ppbe
Browse...
Required disk space: 62.1 MB
Free disk space: 6,176 MB
< Back
Next >
Cancel

- The daemon **ppbed** will start during installation.


Setup - CyberPower PowerPanel Business Edition
Daemons
Please note the daemons that are provided by CyberPower PowerPanel Business Edition.
Start/stop script for daemon "ppbed":
ppbed
< Back
Next >
Cancel

- Click the **Finish** button to complete the installation**.**

Setup - CyberPower PowerPanel Business Edition
Completing the CyberPower PowerPanel Business Edition Setup Wizard
Setup has finished installing CyberPower PowerPanel Business Edition on your computer. The application may be launched by executing the installed start scripts.
Click Finish to exit Setup.
Login CyberPower PowerPanel Business Edi...
Default username and password is "admin".
Finish

Installation on Text Mode

When the system does not support graphic mode, the Linux installation needs to be initiated in the terminal by using the **./ppbe-linux-x86.sh -c** command on 32-bit systems or use **./ppbe-linux-x86_64.sh -c** command on 64-bit systems.

The installation procedure will be initiated as following steps:

- Press **Enter** to start an installation.

```
Starting Installer ...
This will install CyberPower PowerPanel Business Edition on your computer.
OK [o, Enter], Cancel [c]
```

- **Accept the license agreement.**

```
YOUR ACCEPTANCE OF THE FOREGOING AGREEMENT WAS INDICATED DURING
INSTALLATION.

I accept the agreement
Yes [1], No [2]
```

- **Choose the component.** In order to simultaneous monitor multiple PDU, Center should be installed. If one single computer which is powered by the PDU requiring protection, Client should be installed.
  ***Note: Agent** should be not selected because of ability to access to UPS instead of PDU.*

```
Which components should be installed?
1: Center
2: Client
3: Agent
Please enter a comma-separated list of the selected values or [Enter] for the de
fault selection:
```

- **Choose the destination location.**

```
Where should CyberPower PowerPanel Business Edition be installed?
[/usr/local/ppbe]
```

- Installation procedure starts and once finished. It will end automatically.

```
Please wait for CyberPower PowerPanel Business Edition configuring
Default username and password is "admin".
CyberPower PowerPanel Business Edition may not do hibernation.
Finishing installation...
```

Installation on VMware ESXi and ESX

Installation on ESXi

Installation must be launched in the **vMA** (**vSphere Management Assistant**) which is also a virtual machine on the ESXi host. In order to deploy vMA on the ESXi host and install PPBE in the vMA, users must install the **vSphere Client** tool on another remote computer first. To download the vSphere Client installer, users can

enter the ESXi host IP address to access the web page. Users can visit **VMware** website for ***vSphere Management Assistant Guide document*** about vMA deployment on VMware ESXi.

The installer will guide users in completing the installation. Refer to Installation on Text Mode section to follow the same steps to complete installation. The installer requires root permission to initiate the installation procedure. Mount CD by running **mount -t iso9660 /dev/cdrom /mnt/cdrom** as a root user.(**/dev/cdrom** is the CD drive and **/mnt/cdrom** will be the mount point.). Browse the CD drive and find the installer in the **/Software/Linux** folder. Initiate an installation procedure by running the **./ppbe-linux-x86_64.sh** command.

Note: *In order to allow the interactions between physical and virtual machines, VMware tools have to be installed on each virtual machine. Refer to VMware ESX/ESXi Server documentation for further information about VMware Tools.*

Installation on ESX

Installation must be launched in the **Service Console** (aka **Console Operation System**). To initiate the installation procedure on VMware ESX also requires root permission. Use the same command to mount CD and initiate the installation procedure. Refer to Installation on Text Mode section to complete the installation.

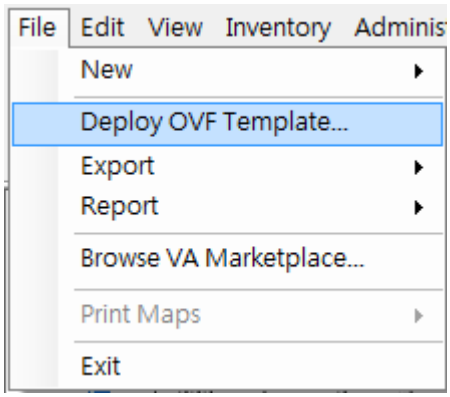
Virtual Appliance Deployment on ESXi

A virtual appliance (VA) is a prebuilt software solution, comprised of one or more virtual machines that is packaged, maintained, updated and managed as a unit. It is fundamentally changing how software is developed, distributed, deployed and managed.

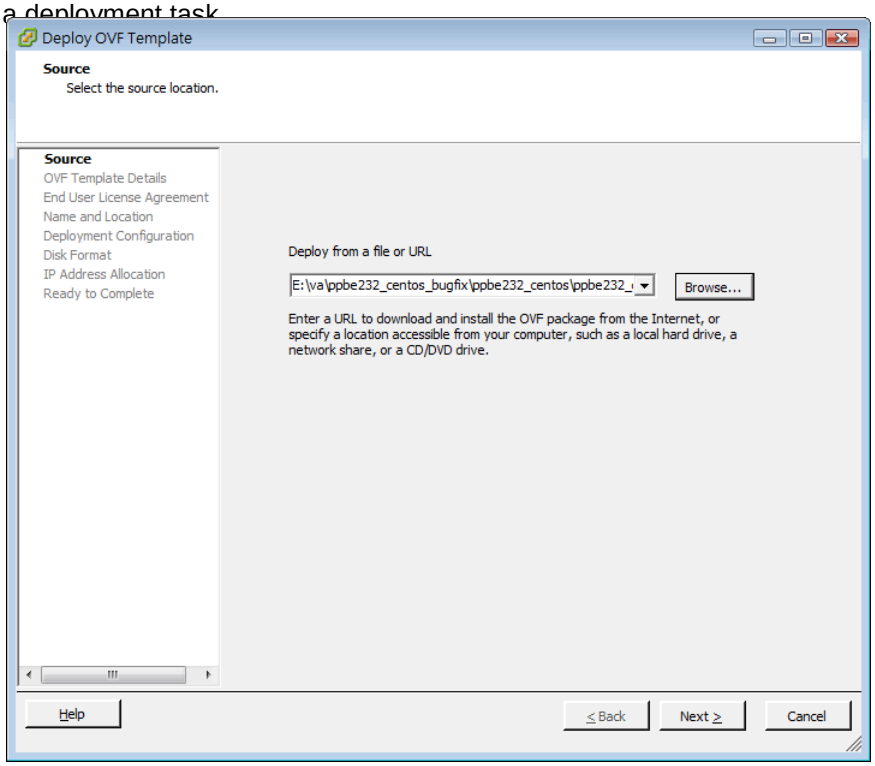
Download the PPBE virtual appliance which is pre-installed Client from CyberPower. In order to deploy the PPBE virtual appliance on VMware ESXi host, users must install **vSphere Client** tool first on another remote computer. To download the **vSphere Client** installer, users can enter the ESXi host IP address to access web page of ESXi host.

The deployment procedure will be initiated as below steps:

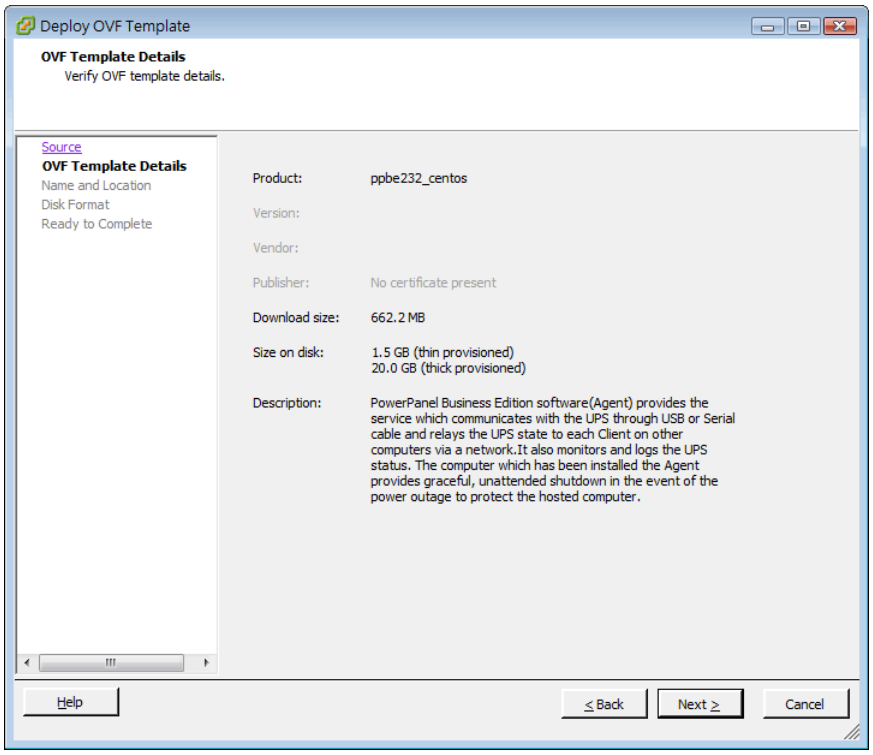
- Launch the vShpere Client. Open the **Deploy OVF Template** window from **File > Deploy OVF Template…** item.



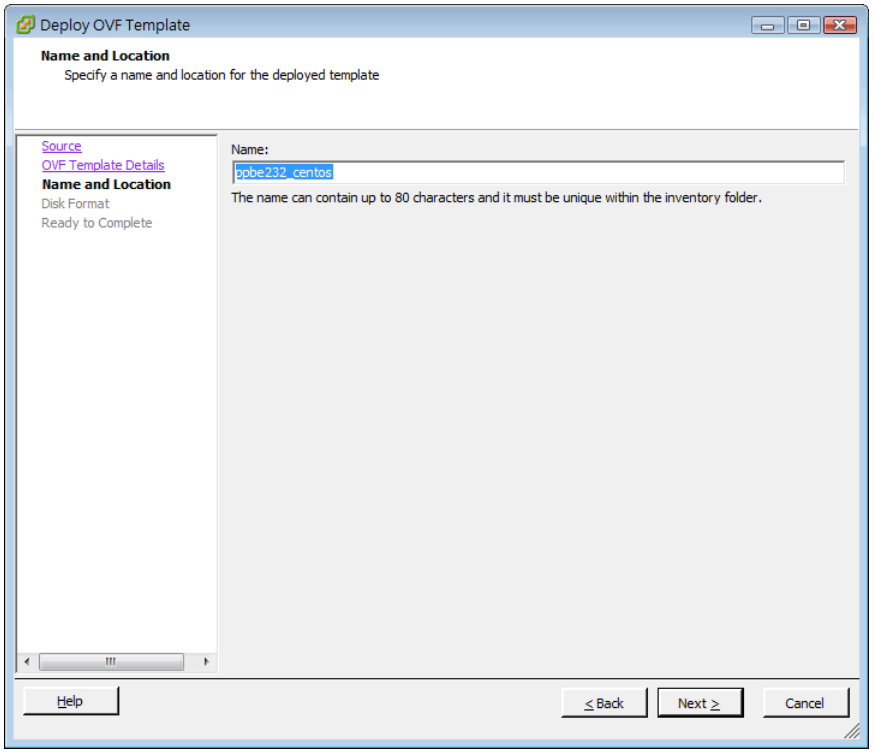
- Click **Browse** to import the **ppbeXXX_centos.ovf** extracted from the download zip file. Click **Next** to start a deployment task.


Deploy OVF Template
Source
Select the source location.
Source
OVF Template Details
End User License Agreement
Name and Location
Deployment Configuration
Disk Format
IP Address Allocation
Ready to Complete
Deploy from a file or URL
E:\va\ppbe232_centos_bugfix\ppbe232_centos\ppbe232_
Browse...
Enter a URL to download and install the OVF package from the Internet, or specify a location accessible from your computer, such as a local hard drive, a network share, or a CD/DVD drive.
Help
< Back
Next >
Cancel

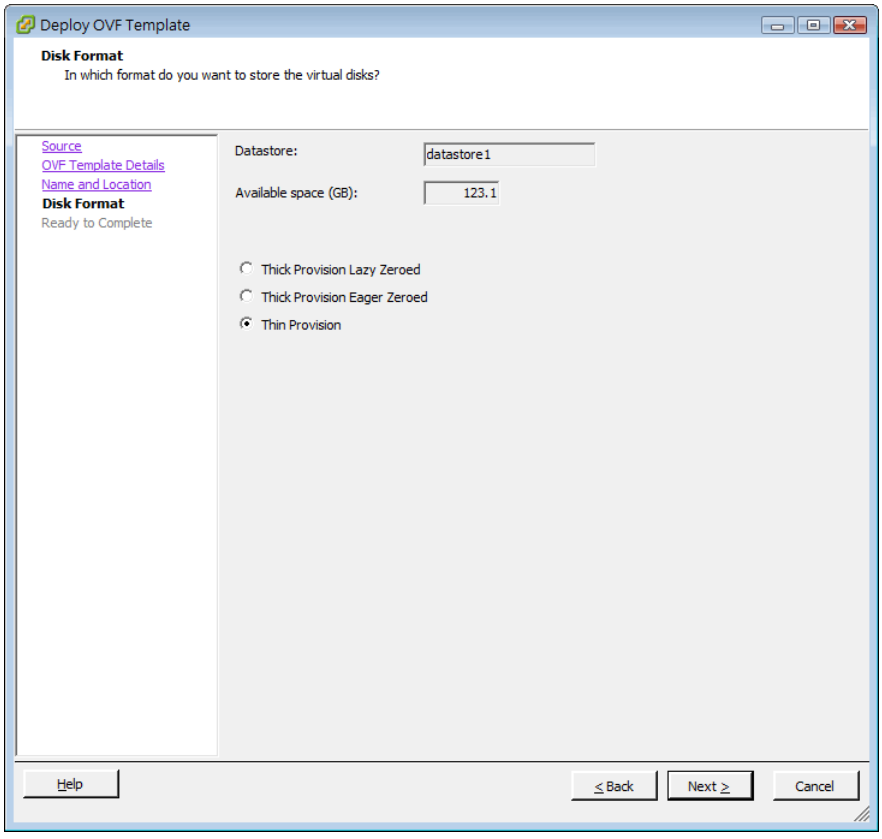
- The OVF template detail is displayed. Click **Next** to continue.


Deploy OVF Template
OVF Template Details
Verify OVF template details.
Source
OVF Template Details
Name and Location
Disk Format
Ready to Complete
Product: ppbe232_centos
Version:
Vendor:
Publisher: No certificate present
Download size: 662.2 MB
Size on disk: 1.5 GB (thin provisioned)
20.0 GB (thick provisioned)
Description: PowerPanel Business Edition software(Agent) provides the service which communicates with the UPS through USB or Serial cable and relays the UPS state to each Client on other computers via a network.It also monitors and logs the UPS status. The computer which has been installed the Agent provides graceful, unattended shutdown in the event of the power outage to protect the hosted computer.
Help
< Back
Next >
Cancel

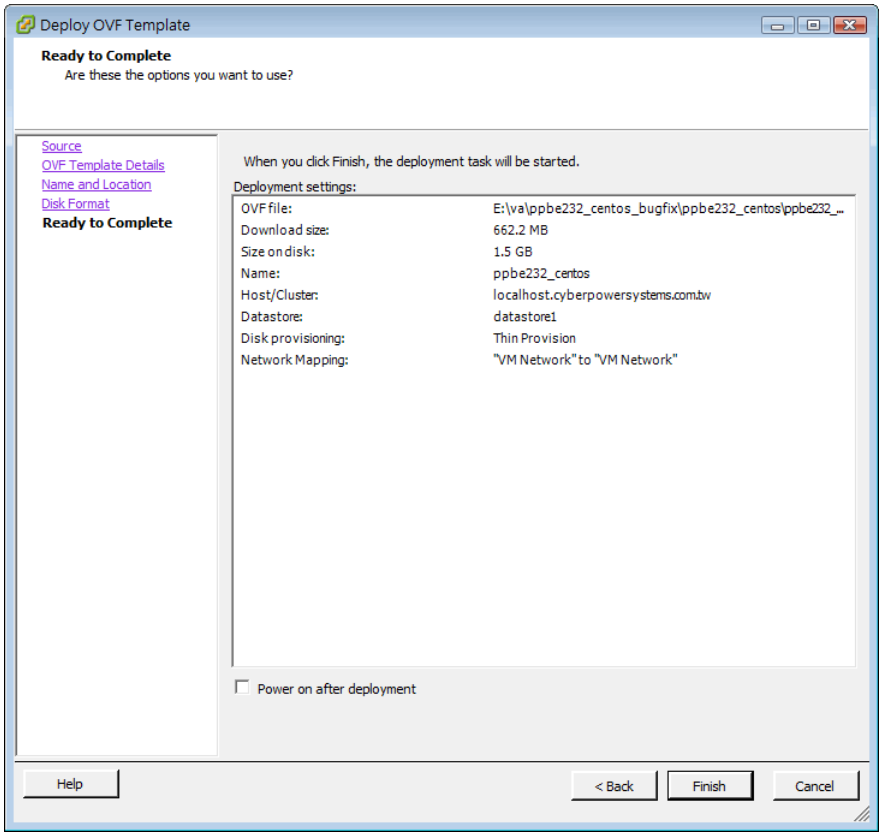
- Enter the name for the deployed PPBE virtual appliance. This name should be unique within the inventory.



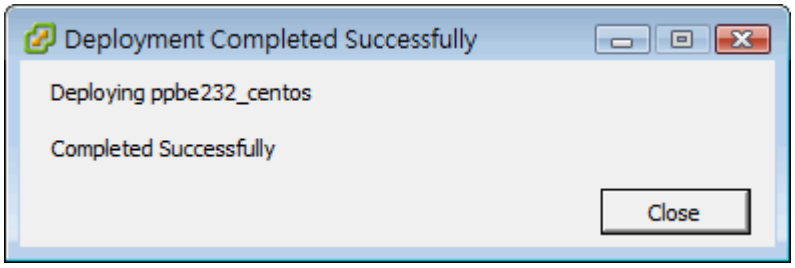
- Select the virtual disk format for the PPBE virtual appliance. The default option is **Thin Provision**. Refer to About Virtual Disk Provision Disk Policies for further information about how to select virtual disk format.



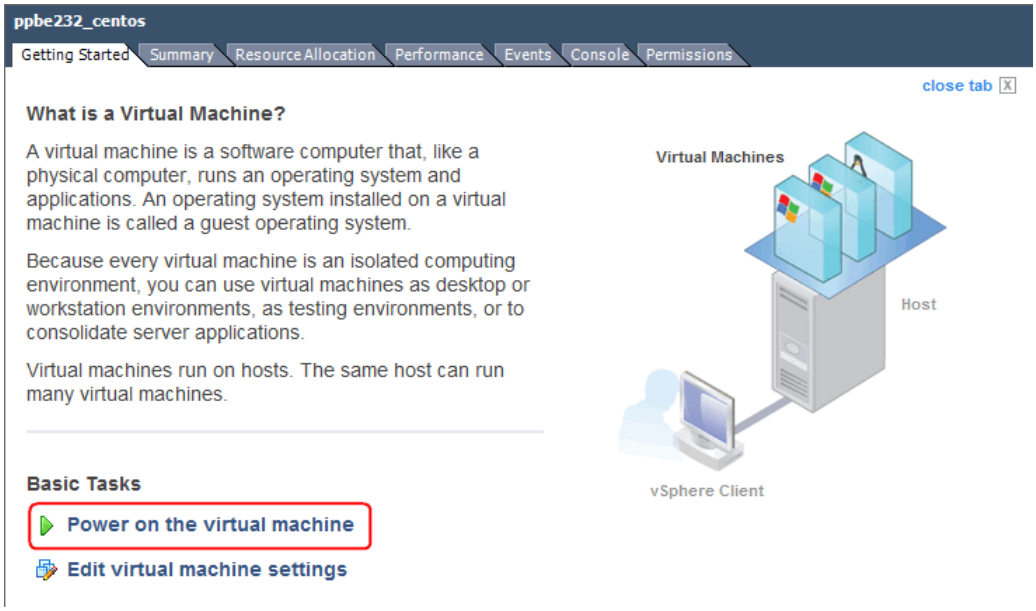
- A deployment detail is displayed. Click **Finish** to start the deployment task.



- After the deployment task is complete, the PPBE virtual appliance will be added into the inventory.



- Click **Power on the virtual machine** to power on the virtual machine and ready to access the Agent.


ppbe232_centos
Getting Started
Summary
Resource Allocation
Performance
Events
Console
Permissions
close tab
What is a Virtual Machine?
A virtual machine is a software computer that, like a physical computer, runs an operating system and applications. An operating system installed on a virtual machine is called a guest operating system.
Because every virtual machine is an isolated computing environment, you can use virtual machines as desktop or workstation environments, as testing environments, or to consolidate server applications.
Virtual machines run on hosts. The same host can run many virtual machines.
Virtual Machines
Host
vSphere Client
Basic Tasks
Power on the virtual machine
Edit virtual machine settings

- Login the virtual appliance. The default username and password are **admin.** In order to perform shutdown

accurately, you must change the time zone settings of the virtual appliance.

This can be a direct copy of the time zone file from the **/usr/share/zoneinfo** folder. We assume that the host is located under the Chicago CST zone in Chicago, and the time zone can be changed by running the command **cp /usr/share/zoneinfo/America/Chicago /etc/localtime**.

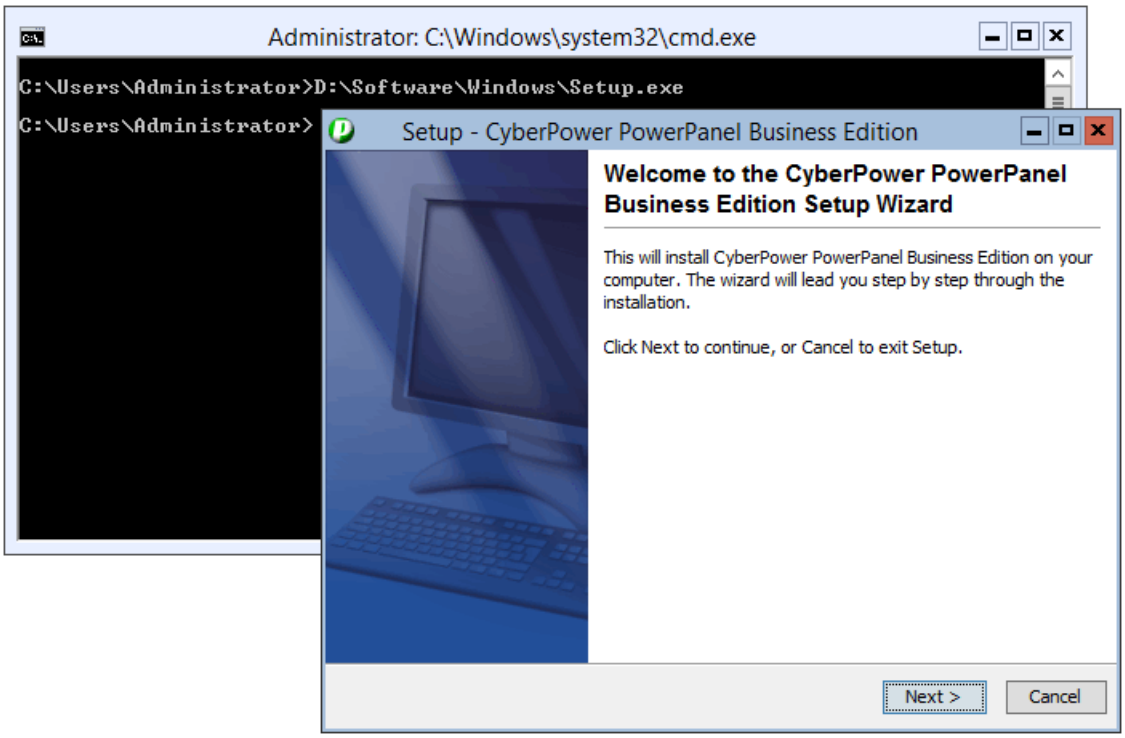
Installation on XenServer

The installer requires root permission to install the PowerPanel® Business Edition. Mount CD by running **mount -t iso9660 /dev/cdrom /mnt/cdrom** as a root user (**/dev/cdrom** is the CD drive and **/mnt/cdrom** will be the mount point.). Browse the CD drive and run **./ppbe-linux-x86.sh** command to initiate an installation procedure.

Installation must be launched on the **Dom0**. Refer to Installation on Text Mode section to complete the installation.

Installation on Hyper-V Server

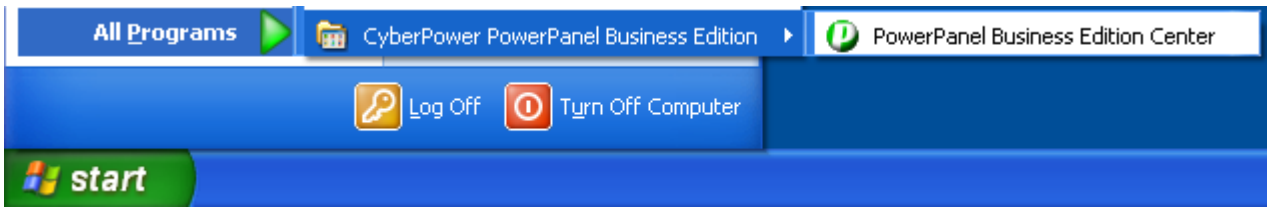
Use the PowerPanel® Business Edition installation CD to complete the installation on the target computer. Run the ***<CD_Drive>\Software\Windows\setup.exe*** of the command prompt such as below illustration to start the installation procedure (***CD_Drive*** *is a CD drive formatted as* ***D:*** *or* ***E:***). A popup window will be displayed when the installation is launched. Refer to **Installation on Windows** section to follow the same steps to complete installation.


Administrator: C:\Windows\system32\cmd.exe
C:\Users\Administrator>D:\Software\Windows\Setup.exe
C:\Users\Administrator>
Setup - CyberPower PowerPanel Business Edition
Welcome to the CyberPower PowerPanel Business Edition Setup Wizard
This will install CyberPower PowerPanel Business Edition on your computer. The wizard will lead you step by step through the installation.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

Access PowerPanel® Business Edition Software Interface

To access the PowerPanel® Business Edition interface in Windows, go to **Start > All Programs > CyberPower PowerPanel Business Edition > PowerPanel Business Edition Center** (or **PowerPanel**

Business Edition Client) which will take you to the login page.



On Linux, users can also enter the URL as **http://localhost:3052/** in the address of the web browser to access to the interface. Users can also enter the URL, **http://hosted_computer_ip_address:3052/** in the address of the web browser to access the interface from a remote computer. **hosted_computer_ip_address** is the IP address of the computer which has the PowerPanel® Business Edition installed. For vMA on the ESX or ESXi, **hosted_computer_ip_address** is the IP address of the vMA (**Note**: **hosted_computer_ip_address** is the IP address of the host computer on ESX.)

The default username is **admin** and default password is **admin.** For security purposes, it is recommended you change the login username and password after the initial login.

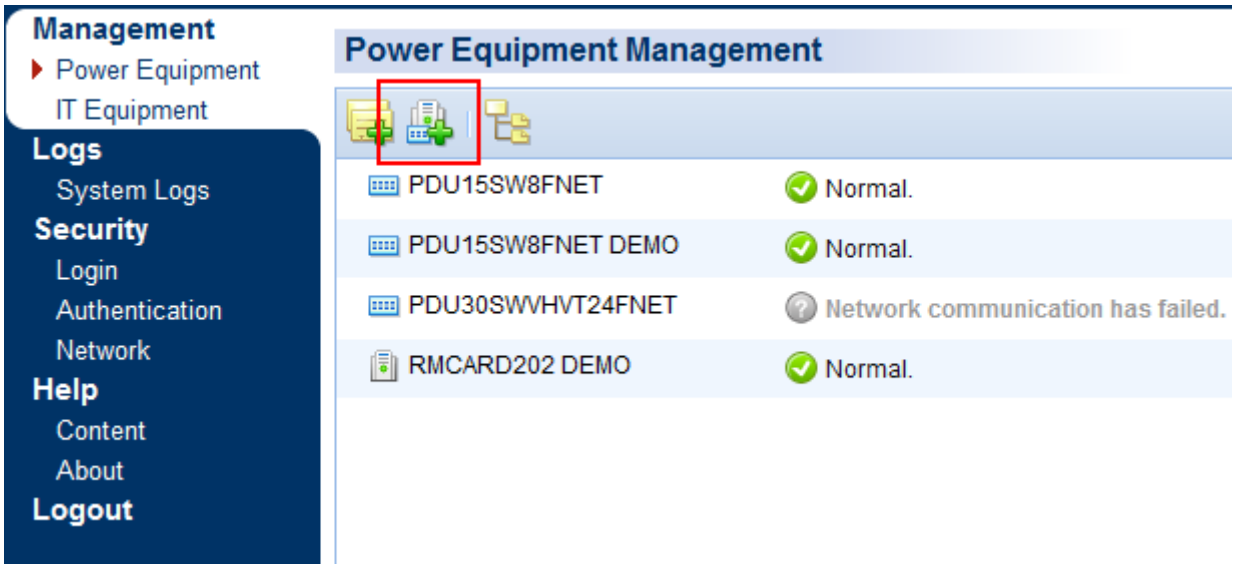
PowerPanel® Business Edition supports multiple-language function and allows users to change language. It will choose the suitable language as the default one to display at the initial access. Users can change the language from the banner. After the language is changed, the page will refresh automatically and choose the assigned language as the default one to display.

Manage PDUs in Center

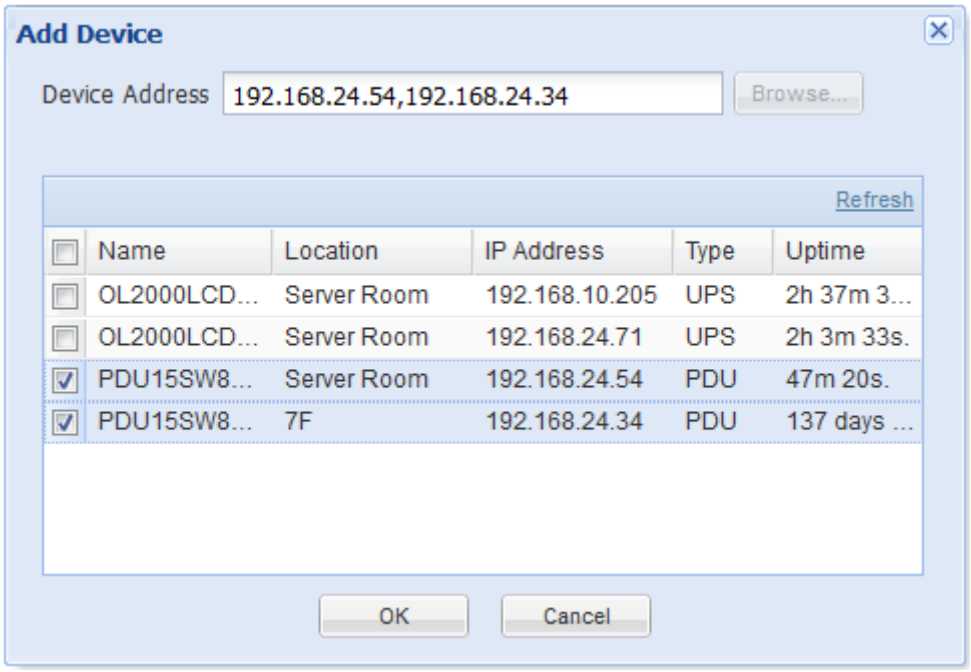
Add PDUs

Users can monitor and control multiple PDUs on the **Management/Power Equipment** page by accessing *Add Device* window in the context menu to add PDUs in Center as below:

The *Add Device* window can be accessed by clicking the *Add Device* button of the toolbar or selecting the *Add Device* of the context menu of any one group.



Either enter the PDU's IP address on the *Device Address* field or click the **Browse** button to display the device list and select the PDU address from this list. Click **OK** to proceed and add the selected PDU.



Note: *If multiple PDUs need to be added to Center, repeat aforementioned steps.*

Note: *Please refer to* ***PPBE User's Manual*** *about further details of more functions about Center.*

Configure Power Protection for Computer

In order to ensure the computers which connect to the PDU have sufficient time to complete the shutdown prior to the outlets turning off, the Client should be installed. The Client will establish communication with the PDU and receive commands from the PDU to initiate a complete shutdown and avoid data loss or a system crash.

Assign PDU's IP Address and Connected Outlet in Client

Communication can be established through the network by assigning the IP address of the PDU in Client. The

IP address of the PDU can be assigned at the *Address* field on the **Power/Configuration** page in Client. To identify IP address of PDU, users can pick an address from the device list which shows all devices on the local network. In order to ensure the PDU can respond to the Client normally, the secret phrase or SNMP communities must be setup properly. Assign the PDU output outlet which supplies power to Client computer. Click **Apply** button to save changes to take effect.

Note: *Users can also assign the IP Address of PDU to the Client in Center and it is easier for users to attach multiple Clients to the PDU in Center. Communication can be established by configuring Settings of Details on the monitored PDU in Center. Refer to User's Manual to know how to establish communication between Client and PDU.*

Setup Necessary Shutdown Time

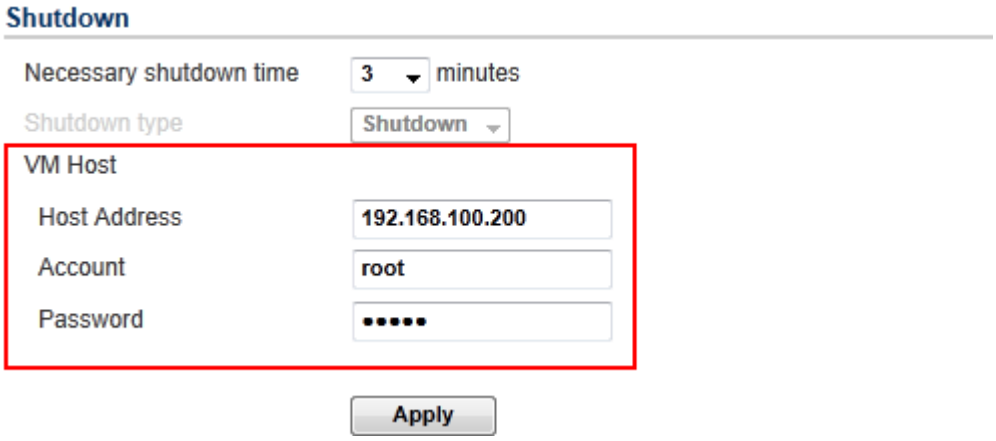
Each computer running the Client requires a sufficient time to shut down completely before the PDU turns off the connected outlet for any reason. Therefore users can set up this sufficient time at the *Necessary shutdown time* option on the **Event Action/Settings** page in the Client.

When the PDU outlet powering to a computer running the Client is going to be turned off, the outlet should not be turned off by the PDU until the Client computer is shut down completely. The Client will detect whether the off-delay time is sufficient for the Client computer to shut down gracefully and give a warning on the **Event Action/Settings** page to users that the computer running the Client may be shut down improperly due to insufficient time. Click the **Setup** button in the warning block to set up a sufficient time for the *Delay Off Time* setting on the connected outlet of the PDU. Users can also set up a sufficient time on the *Delay Off Time* manually in the PDU web interface.

Configure Shutdown Action for ESXi

In order to ensure the ESXi server host and all virtual machines can be shut down correctly in case of power events, users have to configure the ESXi host address, account and password of the root user for the host shutdown from vMA. Because PowerPanel® Business Edition software must be installed on the Service Console of ESX instead of vMA, Event Action/Settings page don't provides these shutdown settings for user to configure. Fill in the *Host Address, Account* and *Password* fields with actual username and password for ESX/ESXi host on the **Event Action/Settings** page.

Note: *Host Address is the IP address of the ESXi host computer on which vMA is operating but not the IP address of vMA.*

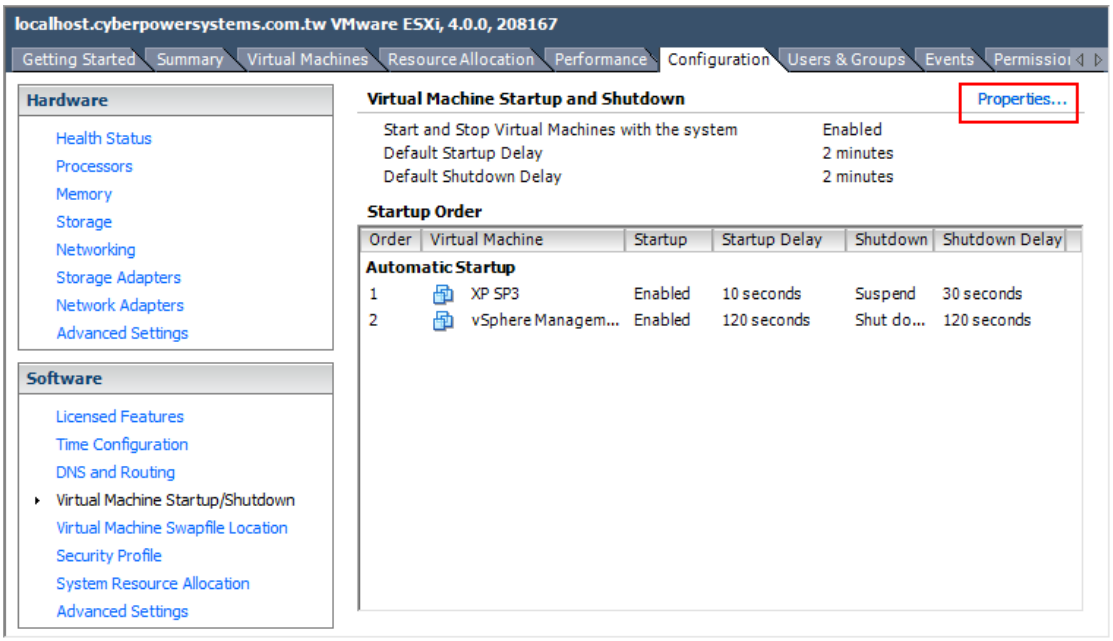


Note: *In order to allow the interactions between physical and virtual machines, VMware tools must be installed on each virtual machine. Refer to VMware ESX/ESXi Server documentation for further information about VMware Tools.*

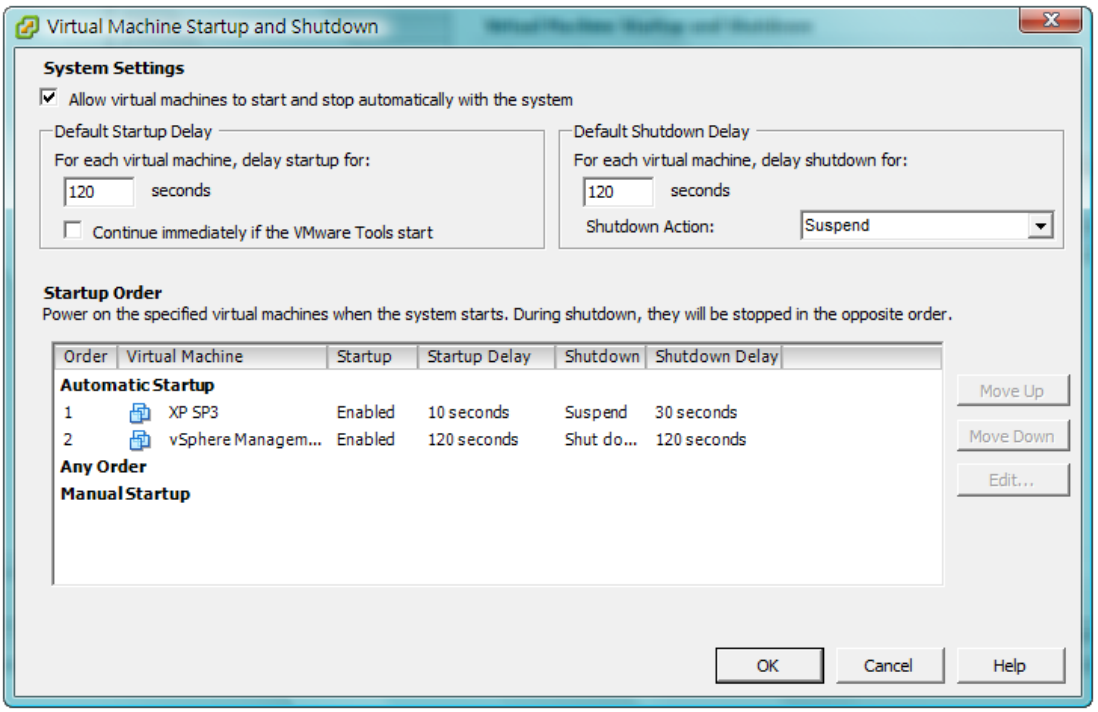
Configure Startup and Shutdown of Virtual Machines on ESX/ESXi

In order to ensure that all virtual machines and the VMware ESX/ESXi server host can be shut down and restart gracefully:

- Select the topmost VMware ESX/ESXi server host from the tree hierarchy on the left side. Go to **Configuration** → **Virtual Machine Startup/Shutdown** menu → **Properties** of the vSphere Client.



- Enable the **Allow virtual machines to start and stop automatically with the system** option

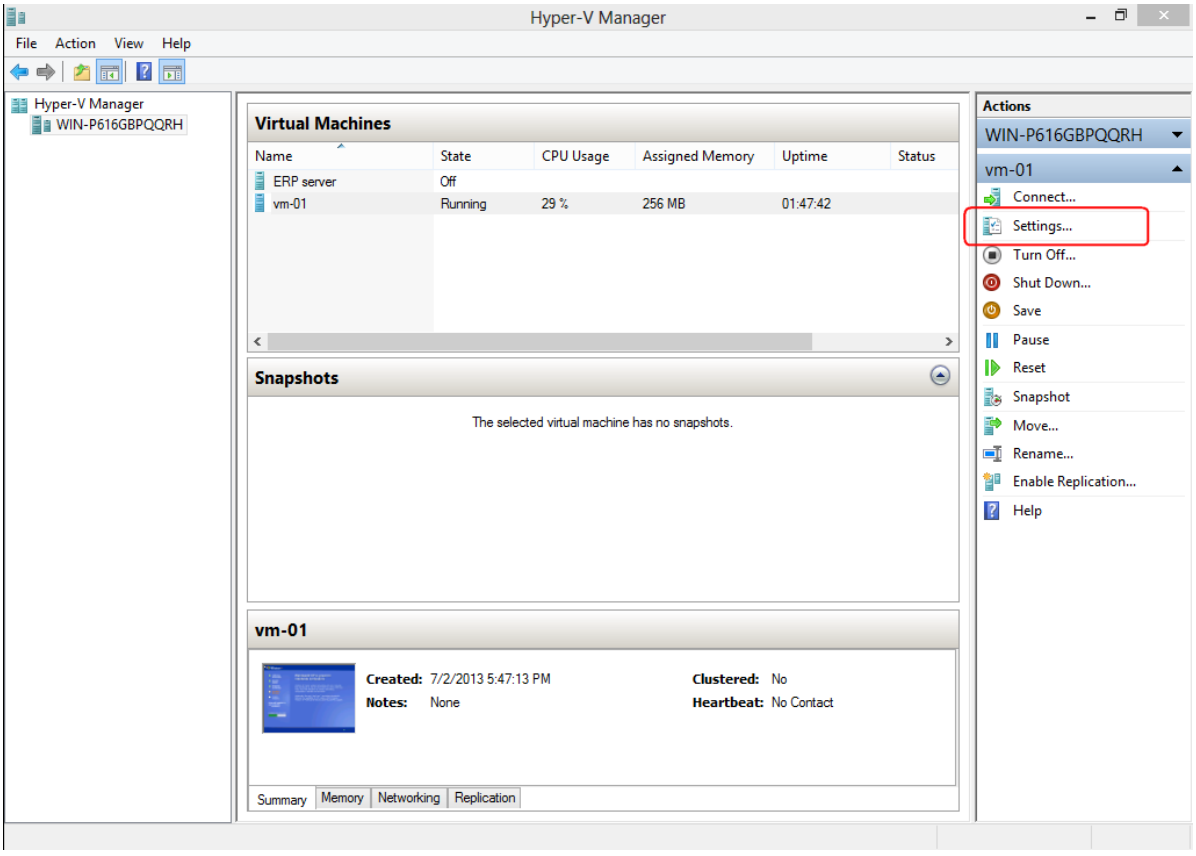


Configure Shutdown of Virtual Machines on Hyper-V Server

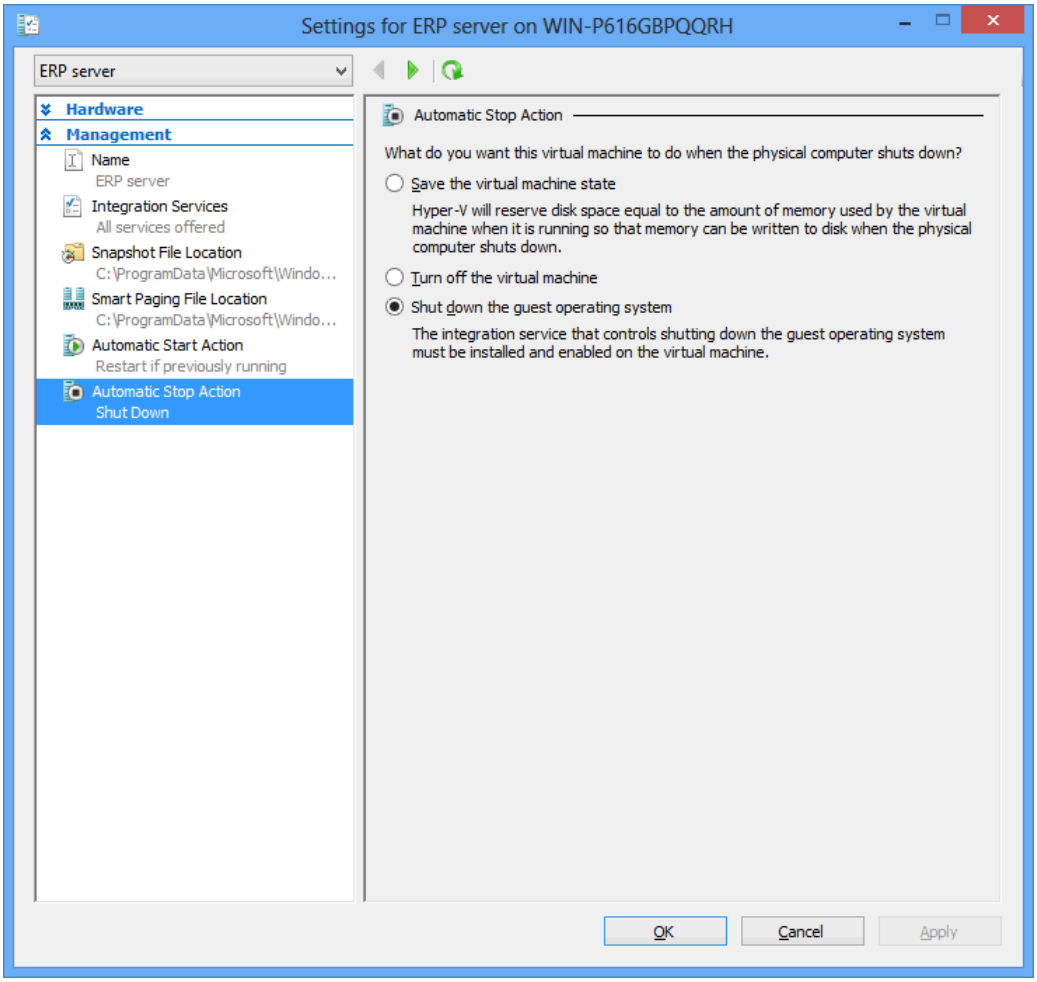
In order for the virtual machines to be shut down correctly when the Hyper-V host shuts down, users should configure a guest operating system shutdown on each virtual machine.

Follow below steps to configure the guest virtual machine to shut down with the host:

- Using the Hyper-V Manager to choose a VM and the click **Settings**.



- Choose the **Automatic Stop Action** and choose **Shut down the guest operating system**.


Settings for ERP server on WIN-P616GBPQQRH
ERP server
Hardware
Management
Name
ERP server
Integration Services
All services offered
Snapshot File Location
C:\ProgramData\Microsoft\Windo...
Smart Paging File Location
C:\ProgramData\Microsoft\Windo...
Automatic Start Action
Restart if previously running
Automatic Stop Action
Shut Down
Automatic Stop Action
What do you want this virtual machine to do when the physical computer shuts down?
Save the virtual machine state
Hyper-V will reserve disk space equal to the amount of memory used by the virtual machine when it is running so that memory can be written to disk when the physical computer shuts down.
Turn off the virtual machine
Shut down the guest operating system
The integration service that controls shutting down the guest operating system must be installed and enabled on the virtual machine.
OK
Cancel
Apply

Hyper-V server will shut itself down only after the running virtual machines shut down. Ensure that the *Necessary shutdown time* in the **Event Actions/Settings** page must be sufficient to support the virtual machines to shut down and the Hyper-V server to shut down.

***Note**: In order to allow the interactions between physical and virtual machines, Hyper-V Integration Service (HIS) have to be installed on each virtual machine by accessing **Insert Integration Services setup disk** item from the **Action** menu of each virtual machine's console.*
If the virtual machine is running a Linux distribution, refer to the Linux Integration Services for Hyper-V page to download and install the Linux integration service for Hyper-V.

Mass Deployment

In order to install Client on more computers and apply the same settings, users can follow below steps to complete the automatic deployment:

- **Export Profile.** Choose one target Client to export its power configuration and system settings to the profile on the **Preferences/Profile** page.
- Copy below example code to the text editor and save as new file named **setup.varfile**.

```
installModule=client
installationDir=ppbe_installation_directory
```

```
profilePath=exported_zip_location
```

- Edit the **setup.varfile** to replace **installationDir** and **profilePath** parameters. **installationDir** indicates the absolute path of installation directory for Client (e.g. *C:/Programs/CyberPower PowerPanel Business Edition/PowerPanel Business Edition* or */opt/ppbe*). **profilePath** indicates the absolute path of profile (e.g. *C:/import/profile.zip* or */import/profile.zip*).
- Place the **setup.varfile** and installer in the same directory. Make sure that the filename must be the same (e.g. **setup.exe** and **setup.varfile**).
- For Windows users, running the below command in the command prompt to complete the installation.

```
setup.exe –q –console –Dinstall4j.detailStdout=true
```

- For Linux users, running the below command in terminal to complete the installation.

```
sudo setup.sh –q –console –Dinstall4j.detailStdout=true
```

Note. *When you would like to upgrade the pre-installed Agent or Client during the unattended installation, set the* ***installationDir*** *parameter blank. The installer will automatically detect where preinstallation PPBE directory locates and attempt to complete the upgrade installation.*

Computers which never installed Agent or Client can be installed the PPBE by assigning a valid path. Assigning a blank path to the ***installationDir*** *parameter during the unattended installation will allow the installer to use the default path as the installation directory.* ***C:/Program Files/CyberPower PowerPanel Business Edition/*** *will be the default installation directory in Windows systems.* ***/opt/ppbe*** *or* ***/usr/local/ppbe*** *will be the default installation directory in most Linux distributions.*